

**ABSTRACT OF THE DISCLOSURE**

[0100] Gated field emission devices and systems and methods for their fabrication are described. A method includes growing a substantially vertically aligned carbon nanostructure, the substantially vertically aligned carbon nanostructure coupled to a substrate; covering at least a portion of the substantially vertically aligned carbon nanostructure with a dielectric; forming a gate, the gate coupled to the dielectric; and releasing the substantially vertically aligned carbon nanostructure by forming an aperture in the gate and removing a portion of the dielectric.